

## CURRICULUM VITAE

**DOMINIC P. D'AGOSTINO, PH.D.**  
**ASSOCIATE PROFESSOR**  
**SEPTEMBER 1, 2017**

### OFFICE ADDRESS:

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### EDUCATION:

- 1994-1998: B.S. Biological Sciences and Nutritional Sciences, Rutgers University, New Brunswick, NJ
- 1999-2004 Ph.D. Neuroscience and Physiology; Division of Pulmonary and Critical Care Medicine; Graduate School of Biomedical Sciences; Rutgers University, Robert Wood Johnson Medical School, University of Medicine and Dentistry of NJ (UMDNJ), New Brunswick, NJ  
**Doctoral Dissertation:** "[Heme oxygenase is necessary for hypoxic chemosensitivity of cultured rostral ventrolateral medulla neurons](#)"  
September 3, 2004; UMDNJ-RWJMS (MEB)  
Mentor: Judith A. Neubauer, Ph.D.

### ACAMEDIC EMPLOYMENT AND RESEARCH EXPERIENCE:

- 2004-2006: Postdoctoral Fellow (Mentor: Prof. Jay B. Dean)  
Department of Neuroscience, Cell Biology and Physiology)  
Wright State University Boonshoft School of Medicine, Dayton, OH
- 2006-2008: Postdoctoral Fellow (ONR/DoD-Funded)  
Molecular Pharmacology and Physiology  
University of South Florida Morsani College of Medicine, Tampa FL
- 2008-2010: Research Assistant Professor (Non-Tenure Track)  
Molecular Pharmacology and Physiology  
University of South Florida Morsani College of Medicine, Tampa FL
- 2010-2015: Assistant Professor (Tenure Track)  
Molecular Pharmacology and Physiology

University of South Florida Morsani College of Medicine, Tampa FL

2016-Present: Associate Professor (Tenured)  
Molecular Pharmacology and Physiology  
University of South Florida Morsani College of Medicine, Tampa FL

2014-Present: Research Scientist  
Florida Institute for Human and Machine Cognition (IHMC)  
Ocala, FL 34471

### **PROFESSIONAL MEMBERSHIPS**

American Physiological Society (APS)  
Society for Neuroscience (SfN)  
Undersea and Hyperbaric Medicine Society (UHMS)  
Aerospace Medical Association (AsMA)  
National Academy of Inventors (NAI)  
University of South Florida President's Council  
American Association for Cancer Research (AACR)

### **AWARDS**

1996: Cook College/Rutgers Undergraduate Educational Assistance Award  
1999: Predoctoral Fellowship Award (5 yrs), UMDNJ-RWJMS  
2000: Graduate Student Respiratory Physiology Award, FASEB, Experimental Biology  
2003: Graduate Student Respiratory Physiology Award, FASEB, Experimental Biology  
2003: Proctor and Gamble Professional Award in Physiol., FASEB, Experimental Biology  
2005: Best Overall Clinically Related Presentation, Undersea and Hyperbaric Medicine Society (UHMS)  
2005: Postdoctoral Fellowship Award (3 yrs), Office of Naval Research (ONR)  
2014: Allentown High School Hall of Fame Lifetime Achievement Award

### **EDITORIAL BOARDS**

Journal of Applied Physiology  
Oxford University Press

### **INVITED REVIEWER**

High Altitude Medicine and Biology, Neuroscience, Free Radicals in Medicine and Biology, Epilepsia, Respiratory Physiology & Neurobiology, Journal of Evolution and Health, Epilepsy Research, PloS One, Nutrition & Metabolism, Journal of Applied Physiology, Respiratory Physiology & Neurobiology, International Journal of Sports Nutrition (ISSN), International Journal of Sports and Exercise Medicine, Journal of Lipid Research, Comprehensive Physiology, Journal of Sports Science and Medicine, International Journal of Cancer, IUBMB Life, Metabolomics, Journal of Neuro-Oncology, Oncotarget, Cell Cycle

### **COMMITTEES/ SERVICE**

2012-2017: University of South Florida; Comparative Medicine; Institutional Animal Care and Use Committee (IACUC)

2016: USF Young Innovator Competition Judge  
 2011-2013: USF Health Sciences Research Day Posters Judge  
 2014-2016: USF Morsani College of Medicine Curriculum Committee for Medical Education  
 2016-Present: USF Morsani College of Medicine Research Committee (COMCOR)

### **ADVISORY BOARDS**

2014: Advisor: Expert Panel for FDA GRAS Determination of Ketone Metabolites  
 2012: Scientific Advisory Board: Winning the Fight against Neurodegenerative Diseases (WFND; ALS Foundation), Tampa, FL  
 2012: Scientific Advisory Board: Cognate Nutritionals  
 2013: Scientific Advisory Board: Max Love Project (501c3)  
 2014: Scientific Advisory Board: Epigenix Foundation  
 2015: Advisory Board Member: Keiser University  
 2015: Scientific Advisory Board: VIRTAs Health  
 2015: Scientific Advisory Board: Anemone  
 2015: Board Member: Kids Misdiagnosed Organization  
 2016: Task Force Dagger Foundation: Special Operations Forces (SOF) Health Initiatives  
 2016: National Hyperbaric Association (NHA)

### **STUDY SECTIONS/ GRANT REVIEW**

2013: **Reviewer:** USF-Moffitt Anna D. Valentine Cancer Research Award Grants  
 2012-2014: **Ad Hoc Reviewer:** Department of Veterans Affairs: VA Merit Grant Review; Neurobiology-A (NURA) and Neurobiology-B (NURB)  
 2014-Present: **Regular Member Reviewer:** Department of Veterans Affairs: VA Merit Grant Review Neurobiology-B (NURB)  
 2015-2016: Mid-Atlantic NORC Pilot and Feasibility Grant Reviewer

### **TEACHING**

**Lecturer (2005-2006):** Course Title: Cells, Tissues, Organ Systems (CATOS): Five Lectures: *Signaling I, II, II; Receptors I, II*; Medical Year 1, Wright State University Boonshoft School of Medicine, Dayton, OH  
**Lecturer (2005-2006):** Course Title: Applications of Nanotechnology: *Biological Applications of Atomic Force Microscopy*; Wright State University School of Medicine, Dayton, OH  
**Lecturer (2007-2008):** Course Title: Principles of Pharmacology; *Dietary Effect on Drug Absorption and Metabolism*; GMS 6513, USF, Tampa, FL  
**Lecturer (2007-present):** Course Title: Neuropharmacology; *Dopamine, Antipsychotics and Excitatory Amino Acids*; GMS 6735; USF, Tampa, FL  
**Major Professor (2010-present):** Directed Undergraduate Research GMS 7910; USF, Tampa, FL  
**Lecturer (2009-2010):** Course Title: Membrane Physiology; *Redox-Modulated Ion Channels*, GMS 6433, USF, Tampa, FL  
**Major Professor (2010-present):** Laboratory Rotations: Biomedical Science; GMS 6942; USF, Tampa, FL

**Major Professor (2010-present):** Directed Doctoral Dissertation Research; MCOM: GMS 7980 USF, Tampa, FL

**Major Mentoring Professor (2011-present):** Graduate Seminar; MCOM; GMS 7939 002 USF, Tampa, FL

**Lecturer (2011-present):** Course Title: Basic Medical Biochemistry; *Reactive Oxygen Species (ROS) and Oxidative Stress in Disease Processes*, MCOM: GMS 6202, USF, Tampa, FL

**Lecturer (2016-present):** Course Title: GMS6440.003S17 Basic Medical Physiology: *Gastrointestinal Physiology; Small Intestine; Exocrine Pancreas & Liver/Gallbladder; Large Intestine, Gastrointestinal Health*. USF, Tampa, FL

**Lecturer (2016-present):** Course Title: GMS6706.003S17 Basic Medical Neurosciences; 1. *The Action Potential - Initiation & Propagation*; 2. *Synthesis, Storage, & Release of Neurotransmitters*; 3. *Postsynaptic Signaling*; USF, Tampa, FL

**Lecturer (2010-present):** Course Title: Foundations in Biomedical Sciences; Redox Biochemistry: *Reactive Oxygen Species (ROS)*, GMS 6001; USF, Tampa, FL

**Lecturer (2013):** Advanced Respiratory Pathophysiology; Medical Year 4; Obstructive and Central Sleep Apnea, MDT8200E.A51M13; USF, Tampa, FL

**Course Director (2011-present):** Advanced Studies in Metabolism and Signaling; GMS 7930; USF, Tampa, FL

#### **TRAINING EXPERIENCE AT USF:**

##### **Postdoctoral Fellows/Supervised/Co-Supervised/Trained**

Dr. Angela M. Poff, Dr. Csilla Ari, Dr. Christopher Rogers, Dr. Raffaele Pilla, Dr. Heather Held, Dr. Tina Fiorelli; Dr. Shannon Kesl

##### **Doctoral Degree Training**

- 2010-2014 **Major Professor**, Ph.D. Program: Angela Poff: *"Targeting Cancer Metabolism with Ketosis and Hyperbaric Oxygen"* (2014). Graduate Thesis and Dissertation. <http://scholarcommons.usf.edu/etd/5294>
- 2010-2015 **Major Co-Professor**, Ph.D. Program: Shannon Kesl: *"Metabolic Therapy for Age-Dependent Impaired Wound Healing"* (2016). Graduate Dissertation. <http://scholarcommons.usf.edu/etd/6104>
- 2012-2017 **Major Professor**, Ph.D. Program: Nathan Ward (USF MCOM Presidential Fellow): *Cancer Metabolism: Modulating glucose metabolism to induce mitochondrial stress in a mouse model of metastatic cancer*. Graduate Dissertation
- 2014-Present **Major Professor**, Ph.D. Program: Andrew Koutnik (USF MCOM Presidential Fellow) *Metabolic Therapeutics in Cancer Cachexia*; Graduate Dissertation
- 2011-2015 **Major Professor (2012-13) and Committee Member**, Ph.D. Program: Hernandez-Ontiveros, Diana G., *"Neuroinflammatory Alterations via CD-36 in Traumatic Brain Injury"* (2015). Graduate Theses and Dissertations. <http://scholarcommons.usf.edu/etd/5699>

- 2012-2017: **Committee Member**, Ph.D. Program: Ciarlone, Geoffrey Edward, "*Hypercapnic Hyperoxia Increases Free Radical Production and Cellular Excitability in Rat Caudal Solitary Complex Brain Slice Neurons*" (2016). Graduate Dissertation. <http://scholarcommons.usf.edu/etd/6481>
- 2012-2017: **Committee Member and Collaborator**, Ph.D. Program: Ciarlone, Stephanie Lynn, "*The Effects of Synthetic and Dietary Therapeutics on Learning, Memory, Motor Coordination, and Seizure in an Angelman Syndrome Mouse Model*" (2016). *Graduate Theses and Dissertations*. <http://scholarcommons.usf.edu/etd/6482>
- 2011-2015: **Committee Member**, Ph.D. Program: Edwards, Clare B., "The effects of supplemented metabolites on lifespan and stress response pathways in *Caenorhabditis elegans*" (2015). *Graduate Dissertation*. <http://scholarcommons.usf.edu/etd/5681>
- 2011-2016: **Committee Member**, Ph.D. Program: Jamileh J. Ahmed *Analysis of iPSC-Derived Dopaminergic Neurons Susceptibility to Influenza and Excitotoxicity in Non-Affective Psychosis*
- 2009-2013: **Committee Member and Collaborator**, Ph.D. Program: Milene Brownlow: "*Diet-Induced Ketosis and Calorie Restriction in Mouse Models of Alzheimer's Pathology*" (2013). Graduate Dissertation. <http://scholarcommons.usf.edu/etd/4870>
- 2008-2013: **Committee Member**, Ph.D. Program: Adam Smith: "*Modulating the Pharmacokinetics of Bioflavonoids*" (2012). Graduate Dissertation. <http://scholarcommons.usf.edu/etd/4226>

### Master's Degree Training and Committees

- 2012~2015: **Committee Member**, M.S. Ryan J. Colquhoun: Master's Thesis: *Comparison of Powerlifting Performance in Trained Males Using Traditional and Flexible Daily Undulating Periodization*. <http://scholarcommons.usf.edu/etd/5464/>
- 2012~2015: **Committee Member**, M.S. Roberto E. Flores: Boston College: Master's Thesis: *Mycoplasma Arginini Increases Activation, Energetic Deregulation, and Tumor Progression of VM-M3 Metastatic Macrophage Cells*

### Undergraduate Directed Research and Research Assistant Training

- 2016~Present: Janine DeBlasi (USF Honors College; APS Award Summer Research Fellow; Marshall Scholarship Nominated)
- 2016~2017: Melissa Ramirez (pre-med; MSP3)
- 2015- 2016: Karina Bach (USF Honors College)
- 2012- 2016: Craig Goldhagen (pre-med; USF Honors College)
- 2012~2014: Ashley Van Putten (pre-med; MSP3)
- 2013~2014: Gabrielle Dimattia (pre-med; MSP3)

2012~2014: Nicholas Mavromattes (pre-med; Biology)  
 2014~2015: Cem Murdin  
 2012~2013: Jacob Sherwood  
 2009~2010: Jaimie M. Luke (pre-med; USF; Biology)  
 2008~2010: Jaime Lago

### **High School Mentoring**

2010~2016: BBBS Tampa Bay Mentor: James Tyler

### **SUMMARY OF RESEARCH PROGRAM:**

Our laboratory develops and tests metabolic-based therapies, including calorie restricted diets, ketogenic diets, exogenous ketogenic agents and metabolic-based drugs that target pathways linked pathophysiologically with seizure disorders, neurodegenerative diseases, metabolic dysregulation, cancer, muscle wasting and exercise performance. To investigate the mechanism of these pathologies we use a variety of *in vivo* and *in vitro* techniques, including radio-telemetry (EEG, EMG), electrophysiology, fluorescence microscopy, confocal microscopy, atomic force microscopy (AFM), electron microscopy, histology, biochemical assays, metabolomics, toxicology, *in vivo* bioluminescence imaging, spectrophotometry, behavioral testing and motor function testing. Our work has adapted and utilized radio-telemetry, confocal microscopy and AFM for use inside environmental chambers. These tools allow us to conduct whole-animal, tissue and cellular studies under a broad range of oxygen concentrations and gas pressures to simulate oxidative stress and extreme environments or cellular hypoxia/ischemia. Our past and current projects, supported by the Department of Defense (DoD) and Office of Naval Research (ONR), have identified cellular and molecular correlates of CNS oxygen toxicity (CNS-OT) seizures, a phenomenon which limits the capability of Special Operations (SpecOps) diving. Our efforts have focused specifically on measuring neuronal excitability, reactive oxygen species (ROS) production, biomarkers of oxidative stress and global blood and tissue metabolomics.

Another focus of our research is to develop and test therapies that exploit the metabolic defects of cancer by targeting cancer-specific glycolytic metabolism (*e.g.* Warburg effect) and develop “press pulse” protocols enhance the efficacy existing cancer therapies. Independent of energy metabolism, the ketone  $\beta$ -hydroxybutyrate is an inhibitor of NOD-like receptor family pyrin domain-containing protein (NLRP3) inflammasome, which suppresses inflammation. An emerging area of interest is developing metabolic-based therapies that improve health biomarkers linked to obesity, insulin resistance, type-2 diabetes, wound healing and exercise performance and resilience. Our *in vitro* and *in vivo* studies continue to validate the efficacy, mechanism of action and safety of metabolic therapies (diet supplements, drugs), including exogenous ketones, with pharmacokinetic and toxicology studies. Our data has produced remarkable results in animal models and current efforts have focused on moving these therapies into human clinical trials.

### **1. RESEARCH SUPPORT:**

#### **Current Grants and Contracts**

Title: Testing Press Pulse Strategy in Metastatic Cancer

Purpose: Assess the effects of combinatorial therapies on mitigating tumor growth and extending survival in a mouse model of aggressive metastatic cancer. .

Agency: Donner Foundation

Amount: \$93,340 (Total)

Project No:

Dates: 7/27/2017 to 6/27/2018

Role: **D'Agostino DP** (PI)

Title: Testing Cancer Cachexia Therapy with Ketone Ester Supplementation

Purpose: Cancer cachexia is contributed to the demise of the patient through rapid wasting of lean body mass. Ketones bodies have an anti-catabolic protein-sparing effect. The goal of this proposal is to assess the efficacy of mechanism of ketone ester for use as an agent to mitigate cancer cachexia.

Agency: Donner Foundation

Amount: \$63,330 (Total)

Project No:

Dates: 7/27/2017 to 6/27/2018

Role: **D'Agostino DP** (PI)

Title: Ketone Supplementation for Cancer Cachexia

Purpose: Cancer cachexia is contributed to the demise of the patient through rapid wasting of lean body mass. Ketones bodies have an anti-catabolic protein-sparing effect. The goal of this proposal is to assess the efficacy of mechanism of several ketone supplement formulations for use as a therapy to mitigate cancer cachexia.

Agency: Disruptive Nutrition

Amount: \$45,968 (Total; eligible for FL-HTC match)

Project No:

Dates: 7/27/2017 to 6/27/2018

Role: **D'Agostino DP** (PI)

Title: Florida Center for Brain Tumor Research - Statewide Brain Tumor Registry Program at the McKnight Brain Institute

Purpose: Determine the ketone raising and glucose lowering effects of ketone ester (BD AcAc2) under a range of different macronutrient diets. Characterize the anti-cancer effects of ketone ester in an orthotopic patient-derived brain tumor (glioblastoma) model. Test the ability of ketone ester to reduce tumor cell proliferation when used in combination with chemotherapy (Temozolomide) in chemo-resistant cells.

Agency: Florida Department of Health

Amount: \$13,888 (Direct from Sub)

Project No: P0019025

Subcontract No: UFDSP00011478

Dates: 7/1/2016 to 6/30/2017

Role: **D'Agostino DP** (Project Director on Subcontract)

Title: Development and Testing of Ketogenic Diet, Ketone Supplementation and Hyperbaric Oxygen Therapy for Cancer

Purpose: The purpose of this study is to validate the efficacy and mechanism of metabolic-based approaches to managed aggressive forms of cancer. Pre-clinical cancer models will be used to evaluate the therapies and the underlying signaling pathways associated with suppression of tumor growth.

Funding Agency: Epigenix Foundation (501c3)

Amount: \$101,733 (Total)

USF Award Number: 6143-1131-00

Dates: 4/1/2016 to 3/31/2017

Role: **D'Agostino DP (PI)**

Title: Therapeutic efficacy of the co-administration of Glutamate Oxaloacetate Transaminase and Oxaloacetate (GOT/OX) for Amyotrophic Lateral Sclerosis (ALS)

Purpose: The objectives of this study are to 1) determine the pharmacokinetic and pharmacodynamic parameters of GOT/OX in wild-type mice and to determine the effects of GOT/OX on the health and survival of SOD1-G93A mice, a well-known mouse model of ALS.

Funding Agency: Winning the Fight against Neurodegenerative Diseases Foundation (WFND:501c3)

Amount: \$182,088 (Total)

USF Award Number: 6143-1119-00

Dates: 9/1/2015 to 12/31/2016

Role: **D'Agostino DP (PI)**

Title: Pre-Clinical Study to Assess Efficacy of Metabolic Therapy with a Branched Chain Amino Acid (BCAA) Formula in Mouse Model of Metastatic Cancer

Purpose: The purpose of this project is to complete a pre-clinical mouse study to assess the efficacy, tolerability and safety of a metabolic therapy (nutritional ketosis) combined with a branched chain amino acid formula. The outcome measures of this study are survival time from aggressive metastatic cancer, tumor bioluminescence, metabolomics, insulin signaling (IGF-1, AMPK, AKT, etc.), inflammatory cytokines and assessment for mitigating cancer cachexia,

Funding Agency: Scivation Inc and Florida High Tech Corridor (HTC) matching funds

Amount: \$360,955 (Total)

USF Award #6143109200

Dates: 1/1/2013 to 12/31/2017

Role: **D'Agostino DP (PI)**

Title: Testing the Efficacy of Ketone Supplementation in a Mouse Model of Glucose Transporter Type-1 Deficiency Syndrome (GLUT1D) mice

Purpose: The ketogenic diet is the standard care for GLUT1D, but the restrictive nature of the diet prevents compliance in many cases. Nutritional ketosis is therapeutic for GLUT1D because it elevates ketones in the blood, beta-hydroxybutyrate and acetoacetate, which function as alternative energy substrates to offset hypoglycorrhachia. The project investigates several



novel ketogenic agents that induce “artificial ketosis”, and this circumvents the dietary restriction associated with induction via the clinically used restrictive ketogenic diet.

Funding Agency: Glucose Transporter Type 1 Deficiency Syndrome Foundation (GLUT1D:501c3)

Amount: \$40,000 (Total)

USF Award: 6143109500

Dates: 1/1/2014 to 12/31/2016

Role: **D’Agostino DP (PI)**

Title: Mechanism of CNS and Pulmonary Oxygen Toxicity: Predicting and delaying oxygen toxicity in rats

Purpose: The major goal of this project is to determine the effects of CO<sub>2</sub> retention on production of reactive species and neuronal activity in the solitary complex. In addition, we plan to determine the effects of hypercapnic hyperoxia on physiological indicators of an impending oxygen toxicity seizure (hyperoxic hyperpnea & hypothermia) and on mitigation strategies for delaying onset of CNS oxygen toxicity seizures (therapeutic ketosis & hypobaric preconditioning).

Funding Agency: Office of Naval Research (ONR)

ONR Award: N000141310405

Dates: 12/1/2012 to 12/31/2015

Role: Dean JB (PI); **D’Agostino DP (Co-I)**

### **Submitted Grants**

Title: Phase II Clinical Trial Evaluating a Ketogenic Diet in Diffuse Low Grade Glioma

Purpose: We will test this hypothesis using a rigorous experimental design in a phase II, randomized clinical trial, that will seek to address the provocative question of how a ketogenic diet can affect the response to current therapy, disease-related adverse events, cancer prognosis and health outcomes in patients diagnosed with diffuse LGG while understanding the mechanism by which these relationships occur.

Funding Agency: NIH/NCI R01

Amount: \$3,894,859 (total): Direct: \$2,359,547

Dates: 04/01/2018 – 03/31/2023

Role: D’Agostino DP (Co-PI: USF in Moffitt collaboration with Dr. Nagi Kumar)

Status: Under review

Title: Ketogenic Diet for Reduction of CNS Oxygen Toxicity Symptoms in Working Divers

Purpose: The purpose of this study is to assess the effect of nutritional ketosis on prevention of CNS oxygen toxicity symptoms.

Funding Agency: Office of Naval Research (ONR)

Amount: \$60,595

Dates: 01/01/2018 to 12/31/2020

Role: D’Agostino DP (Co-PI: USF in collaboration with Duke Dr. Bruce Derrick)

Status: Funding Approved

Title: Testing Press Pulse Strategy in Metastatic Cancer

Purpose: Assess the effects of combinatorial therapies on mitigating tumor growth and extending survival in a mouse model of aggressive metastatic cancer.

Agency: Donner Foundation

Amount: \$93,340

Dates: 7/27/2017 to 6/27/2018

Role: D'Agostino DP (PI)

Status: Funding Approved

Title: Testing Cancer Cachexia Therapy with Ketone Ester Supplementation

Purpose: Cancer cachexia is contributed to the demise of the patient through rapid wasting of lean body mass. Ketones bodies have an anti-catabolic protein-sparing effect. The goal of this proposal is to assess the efficacy of mechanism of ketone ester for use as an agent to mitigate cancer cachexia.

Agency: Donner Foundation

Amount: \$63,330

Dates: 7/27/2017 to 6/27/2018

Role: D'Agostino DP (PI)

Status: Funding Approved

Title: Assessment of Ketone Esters for Naval Special Warfare Undersea Operator Performance Optimization

Purpose: The IHMC team with USF will perform a 24-month assessment of ketone ester supplements to enhance performance of NSW operators. This study is to assess the effect of ketone ester supplementation on performance resilience under environmental conditions that simulate mission operations.

Funding Agency: Office of Naval Research (ONR)

Amount: \$799,357 (Total); \$39,000 (USF Sub)

Dates: 10/01/2017 to 09/30/2019

Role: D'Agostino DP (Co-PI: USF in collaboration with IHMC Dr. Ken Ford and Dr. Dawn Kernagis)

Status: Under Review

### **Foundation Accounts and Research Accounts**

Account Title: Metabolic Therapy and Cancer Research

Purpose: Account for advancing studies on metabolic therapies for cancer and for supporting existing sponsored research through private and corporate donations.

Funding Agency: Donations to USF Foundation (501c3)

USF Account No: 250244

Dates: 4/1/2014 to Present

Role: **D'Agostino DP (PI)**

Account Title: Patents and Licensing Research Foundation Account

Purpose: Funds to support existing sponsored research projects from royalties associated with USF patents on metabolic-based therapies.

Funding Agency: Division of Patents and Licensing

USF Account No: R64303  
Dates: 1/1/2013 to 3/31/2018  
Role: **D'Agostino DP (PI)**

**Completed Research Projects:**

Title: Therapeutic Efficacy of Topical Ketone Supplements in combination with Amniotic Tissue Allographs therapy for Wound Healing

Purpose: This project is designed to test the efficacy and mechanisms of a potential wound healing therapy. We will investigate the effects of topical ketones and amnion, chorion patch in the migration of human dermal fibroblasts.

Funding Agency: Tides Medical

Grant #: 6143-1123-00

Dates: 11/1/2015 to 07/31/2016

Role: **D'Agostino DP (PI)**

Title: Efficacy and Mechanism of Ketone Esters for Central Nervous System Oxygen Toxicity (CNS-OT) Seizures

Purpose: The goal of this project is to develop and test several exogenous ketone agents as a mitigation strategy for CNS-OT in a rat model. In addition, pharmacokinetic and toxicology studies have been completed for FDA requirements for Generally Recognized as Safe (GRAS) determination. Microscopy and global metabolomic studies are being done to elucidate the cellular and molecular mechanism of this metabolic-based therapy.

Funding Agency: Office of Naval Research (ONR)

ONR Award: N00014-13-1-0062

USF Account Number: 6143108600

Dates: 12/1/2012 to 12/31/2015

Role: **D'Agostino DP (PI)**

Title: Assessment of Ketone Ester Glycerol Tris *D,L*-3-Hydroxybutyrate in GLUT1 Deficiency Syndrome

Purpose: The ketogenic diet is used for the metabolic management of GLUT1D, and manages the disease symptoms even in the presence of a persistent molecular pathology (*e.g.* SLC2A1 defect). This study seeks to use a novel tri-ester of the ketone beta-hydroxybutyrate (BHB) in a GLUT1D mouse model to induce therapeutic ketosis. And preserve brain energy metabolism during hypoglycorrhachia. In addition to behavioral studies, blood and tissue is collected to assess the metabolic impact (global metabolic profile) that therapeutic ketosis has in the mouse model of GLUT1D.

Funding Agency: KetoProducts LLC

USF Award: 6143111000

Dates: 4/1/2015 to 3/31/2016

Role: Poff AP (PI); **D'Agostino DP (Co-I);**

Title: Pharmacokinetic Studies of Ketone Ester Glycerol Tris *D,L*-3 Hydroxybutyrate

Purpose: The goal of this study is to conduct a dose-response pharmacokinetic study in rats using a novel ester of the ketone beta-hydroxybutyrate (BHB). This particular compound is under consideration for FDA Generally Recognized as Safe (GRAS) determination as a prescription medical food for the metabolic management of metabolic disorders and age-related neurodegenerative disorders and epilepsy. The advantage of using ketone supplementation in this form is that it circumvents the need for dietary restriction typically required for achieving therapeutic levels of ketones in the blood.

Funding Agency: KetoProducts LLC

USF Award: 6143111000

Dates: 4/1/2015 to 3/31/2016

Role: Poff AP (PI); **D'Agostino DP (Co-I)**;

Title: Effect of the Ketogenic Diet vs Western Diet on Strength, Body Composition and Metabolic Biomarkers

Purpose: This project was designed to assess the effects of nutritional ketosis on the performance, body composition, strength and blood safety biomarkers of advance athletes. The results from this experiment confirmed that nutritional ketosis results in favorable body composition alterations and shifts in blood biomarkers of metabolic health.

Funding Agency: Quest Nutrition

USF Award: 6143109300 and 6143109301

Dates: 1/1/2014 to 06/30/2015

Role: **D'Agostino DP (PI)**

Amount: \$120,000

Title: Cellular Mechanisms of CNS Oxygen Toxicity

Purpose: The primary objective of this project is to determine if a predictable pattern of cardiopulmonary changes precede onset of CNS oxygen toxicity, which could potentially be used as a biomarker of an impending O<sub>2</sub>-induced seizure. The second major goal is to determine the neuroprotective effects of hyperoxic preconditioning against CNS oxygen toxicity and its effects on real time production of ROS and RNS in neurons in the solitary complex produced during exposure to normobaric and hyperbaric hyperoxia.

Funding Agency: Office of Naval Research (ONR)

ONR Award: N000140710890

Dates: 12/1/2009 to 8/31/2013

Role: Dean JB (PI); **D'Agostino DP (Co-I)**

Amount: \$727,000

Title: Efficacy and Mechanism of Metabolic Therapy for Amyotrophic Lateral Sclerosis (ALS)

Purpose: There is currently no cure or effective treatment for ALS. Besides motor neuron degeneration, ALS is associated with impaired energy metabolism, which is pathophysiologically linked to mitochondrial dysfunction and glutamate excitotoxicity. The Deanna Protocol (DP) was tested as a metabolic therapy that has been reported to alleviate symptoms in patients with ALS. We tested this supplement protocol on motor function and survival in a mouse model of ALS (SOD1-G93A).

Funding Agency: Winning the Fight against Neurodegenerative Diseases Foundation (WFND:501c3)

USF Account Number: 6143107700

Dates: 9/1/2012 to 8/31/2014

Role: **D'Agostino DP (PI)**

Amount: \$154,000

Title: Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells

Purpose: The objective of this project was to determine the effects of normobaric and hyperbaric hyperoxia on the biophysical properties of the plasma membrane and real time production of ROS and RNS using an integrated atomic force-fluorescence microscopy system that was developed and tested at USF. This DoD/DURIP equipment grant to develop hyperbaric technologies.

Funding Agency: Office of Naval Research (ONR)

ONR Award: N000140910244

Dates: 12/01/2008 to 7/1/2012

Role: **D'Agostino DP (PI)**; Dean JB (Co-I)

Amount: \$677,420

Title: Laser Confocal Microscopy Studies of Oxygen Toxicity

Purpose: The purpose of this grant was to enable the purchase of a cutting-edge confocal microscopy system that we adapted for use inside an environmental/hyperbaric chamber. This technology allows us to visualize the effects of graded levels of hyperbaric gases on cellular processes, including reactive oxygen species (ROS) production, intracellular calcium and mitochondrial function in neurons. We have extended the use of this technology to many projects, including our wound healing and cancer studies

Funding Agency: Department of Defense (DoD) Defense University Research Instrumentation Program (DURIP) Equipment Grant

ONR Award No.: N000141110890

PR No., Mod No.: 11PR09362-00

Dates: 12/01/2008 to 7/1/2012

Role: **D'Agostino DP (PI)**

Amount: \$201,945

Title: Effect of Aging on O<sub>2</sub>-Dependent Redox Regulation of Survival and Growth of Human Fibroblasts and Rat Hippocampal Neurons: Implications for Wound Healing and Neuroprotection

Purpose: This pilot study allowed us to determine the effect of hyperoxia on cell death and ROS production in human fibroblasts and rat hippocampal neurons. The completion of these studies allowed us to further understand the role of O<sub>2</sub>-induced oxidative stress and the differential effects between cells types.

Funding Agency: Signature Interdisciplinary Program in Neuroscience (SIPIN) pilot grant

Dates: 4/1/2011 to 3/31/2012

Role: **D'Agostino DP (PI)**; Gould LJ; Ari C, Kesl S

Amount: \$4,000

Title: Molecular and Cellular Studies of CNS O<sub>2</sub> Toxicity using Hyperbaric Atomic Force Microscopy (HAFM)

Purpose: The objective of this project was to conduct hyperbaric AFM studies on brain cells to understand the effects of hyperoxia and other normobaric and hyperbaric gases on the cell membrane morphology. These studies allowed us to elucidate and the physical correlates of membrane lipid peroxidation, and to link this pathophysiologically to changes associated with hyperoxia-induced neuronal excitability and metabolic dysfunction.

Funding Agency: Office of Naval Research (ONR) Postdoctoral Fellow Award

Grant Award: ONR No. N000140610105

Dates: 12/01/05-11/30/08

Role: **D'Agostino DP (PI)**; Dean JB (Sponsor)

Amount: \$302,564

**PEER REVIEW PUBLICATIONS (REVERSE CHRONOLOGICAL ORDER)**  
**(Senior Authorship Underlined)**

1. Kovacs Z, D'Agostino DP, Dobolyi A, Ari C. Adenosine A1 receptor antagonism abolished the anti-seizure effects of exogenous ketone supplementation in Wistar Albino Glaxo Rijswijk rats. June 2017 *Front. Mol. Neurosci.* doi: 10.3389/fnmol.2017.00235
2. Ward NP, Poff AM, Koutnik AP, **D'Agostino DP**. Complex I inhibition augments dichloroacetate cytotoxicity through enhancing oxidative stress in VM-M3 glioblastoma cells. *PLoS One.* 2017 Jun 23;12(6):e0180061. doi:10.1371/journal.pone.0180061. eCollection 2017. PubMed PMID: 28644886.
3. Klement R, Feinman RD, Gross EC, Champ CE, D'Agostino DP, Fine EJ, Kammerer U, Poff A, Rho JM, Seyfried TN, Scheck AC. (2017) Need for revised review of article on ketogenic dietary regimes for cancer, *Medical Oncology.* (2017) 34:108; DOI 10.1007/s12032-017-0968-4
4. Wilson JM, Lowery RP, Roberts MD, Sharp MH, Joy JM, Shields KA, Partl J, Volek JS, **D'Agostino DP**. The Effects of Ketogenic Dieting on Body Composition, Strength, Power, and Hormonal Profiles in Resistance Training Males. *J Strength Cond Res.* 2017 Apr 7. doi: 10.1519/JSC.0000000000001935. PubMed PMID: 28399015.
5. Somlyai G, Collins QT, Meuillet EJ, Hitendra P, **D'Agostino DP**, Boros LG. (2017) Structural homologies between Phenformin, Lipitor and Gleevec aim the same metabolic oncotarget in leukemia and melanoma. *Oncotarget.* Mar 15. doi: 10.18632/oncotarget.16238
6. Seyfried TN, Yu G, Maroon JC, **D'Agostino DP**. Press-pulse: a novel therapeutic strategy for the metabolic management of cancer. *Nutr Metab (Lond).* 2017 Feb 23;14:19. doi: 10.1186/s12986-017-0178-2. eCollection 2017. PubMed PMID:28250801; PubMed Central PMCID: PMC5324220.
7. Ari C. Canfield CE; Copes N, Poff AM, Fiorelli TN, Landon CS, Goldhagen CR, Mavromates N, **D'Agostino DP**. (2017) Biochemical alterations in Amyotrophic Lateral Sclerosis (ALS) Mouse Model resulted from the Deanna Protocol Supplement Complex. *Metabolomics* 13:55; DOI 10.1007/s11306-017-1183-1
8. Ari C, Kovacs Z, Juhasz G, Murdun C, Goldhagen CR, Koutnik A, Poff AM, Kesl SL, **D'Agostino DP**. (2016) Exogenous ketone supplements reduce anxiety-related behavior in

- Sprague-Dawley and Wistar Albino Glaxo/Rijswijk rats. *Frontiers Molecular Neuroscience*; 9: 137. doi: [10.3389/fnmol.2016.00137](https://doi.org/10.3389/fnmol.2016.00137)
9. Poff, A. M., Kernagis, D. and **D'Agostino, DP**. 2016. Hyperbaric Environment: Oxygen and Cellular Damage versus Protection. *Comprehensive Physiology*. 7:213–234.
  10. Egan B, **D'Agostino DP**. (2016) Fueling Performance: Ketones Enter the Mix. *Cell Metabolism*. Sep 13;24(3):373-5. doi: 10.1016/j.cmet.2016.08.021
  11. Ciarlone SL; Grieco JC, D'Agostino DP, Weeber E. Ketone ester supplementation attenuates seizure activity, and improves behavior and hippocampal synaptic plasticity in an Angelman syndrome mouse model. *Neurobiology of Disease* (2016) Dec;96:38-46. doi: 10.1016/j.nbd.2016.08.002.
  12. Colquhoun RJ, Gail CM, Walters J, Brannon A, Kilpatrick MW, **D'Agostino DP**; Campbell BI. Comparison of Powerlifting Performance in Trained Males Using Traditional and Flexible Daily Undulating Periodization. *J Strength Cond Res*. 2017 Feb;31(2):283-291. DOI: 10.1519/JSC.01500
  13. Kesl SL, Poff AM, Ward NP, Fiorelli TN, Ari C, Van Putten AJ, Sherwood JW, Arnold P, **D'Agostino DP**. (2015) Effects of exogenous ketone supplementation on blood ketone, glucose, triglyceride, and lipoprotein levels in Sprague–Dawley rats. *Nutrition and Metabolism*; 2016 Feb 4;13:9. doi: 10.1186/s12986-016-0069-y
  14. Ari C, **D'Agostino DP**. Contingency checking and self-directed behaviors in giant manta rays: do fish have self-awareness? *Journal of Ethology*, May 2016, Volume 34, Issue 2, pp 167-174.
  15. Viggiano A, Pilla R, Arnold P, Marcellino M, **D'Agostino DP**, Zeppa P, Coppola G. Different calorie restriction treatments have similar anti-seizure efficacy. *Seizure-European Journal of Epilepsy*; 2016 Feb;35:45-9. doi: 10.1016/j.seizure.2016.01.003
  16. Boros L, **D'Agostino DP**, Katz HE, Roth JP, Meuillet EJ, Somlyati G. Submolecular regulation of cell transformation by deuterium depleting water exchange reactions in the tricarboxylic acid substrate cycle. *Medical Hypotheses* 87 (2016) 69–74; DOI: <http://dx.doi.org/10.1016/j.mehy.2015.11.016>
  17. Poff A, Ward N, Seyfried T, Arnold P, **D'Agostino DP**. A novel non-toxic metabolic therapy – ketogenic diet, ketone supplementation, and hyperbaric oxygen – elicit potent anti-cancer effects in vitro and in vivo. *PloS One*. 2015 Jun 10;10(6):e0127407. DOI: 10.1371/journal.pone.0127407
  18. Viggiano A, Pilla R, Arnold P, Marcellino M, **D'Agostino DP**, Coppola G. (2015) Anticonvulsant properties of an oral ketone ester in a pentylenetetrazole-model of seizure. *Brain Res*. 2015 May 27. pii: S0006-8993(15)00425-4. DOI: 10.1016/j.brainres.2015.05.023.
  19. Youm Y, Nguyen K, Grant RW, Golgberg EL, Bodogai M, Kim D, D'Agostino DP, Planavsky N, Lupfer C, Kanneganti TD, Kang S, Horvath TL, Fahmy TM, Crawford PA, Biragyn A, Alnemri E, Dixit VD. "Ketone body  $\beta$ -hydroxybutyrate blocks NLRP3 inflammasome-mediated inflammatory disease. *Nature Medicine*, 2015 Mar;21(3):263-9 DOI: 10.1038/nm.3804.

20. Ari, C., Poff, A.M., Held, H.E., Landon, C.S., Goldhagen, C.R., Mavromates, N., **D'Agostino, DP**. Metabolic therapy with Deanna Protocol Supplementation Delays Disease Progression and Extends Survival in Amyotrophic Lateral Sclerosis (ALS) Mouse Model. *PLoS One*. 2014 Jul 25;9(7):e103526. DOI: 10.1371/journal.pone.0103526
21. Seyfried T, Flores R, Poff AM, **D'Agostino DP**, Mukherjee P. Metabolic therapy: A new paradigm for managing malignant brain cancer. *Cancer Letters*. 2014;356(2): 289-300. DOI: 10.1016/j.canlet.2014.07.015.
22. Seyfried TN, Marsh J, Mukherjee P, Zuccoli G, **D'Agostino DP**. Could Metabolic Therapy Become a Viable Alternative to the Standard of Care for Managing Glioblastoma? *Oncology & Hematology Review*, 2014;10(1):13–20. DOI: 10.17925/USN.2014.10.01.48
23. Seyfried TN, Poff A, **D'Agostino DP**. Cancer as a Metabolic Disease: Implications for Novel Therapeutics. *Carcinogenesis*. 2014, Mar;35(3):515-27. DOI: a10.1093/carcin/bgt480.
24. Poff A, Ari C, Seyfried TN, **D'Agostino DP**. Ketone Supplementation Decreases Tumor Cell Viability and Prolongs Survival of Mice with Metastatic Cancer. *International Journal of Cancer*: 2014 Oct. 1;135(7):1711-20. DOI: 10.1002/ijc.28809
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26. Brownlow ML, Benner L, **D'Agostino DP**, Gordon MN, Morgan D. Ketogenic diet improves motor performance but not cognition in two mouse models of Alzheimer's pathology. *PLoS One*. 2013 Sep 12;8(9):e75713. DOI: 10.1371/journal.pone.0075713.
27. Poff A, Ari C, Seyfried TN, **D'Agostino, DP**. The Ketogenic Diet and Hyperbaric Oxygen Therapy Prolong Survival in Mice with Systemic Metastatic Cancer. *PLoS One.*, 2013; 8 (6): e65522 DOI: [10.1371/journal.pone.0065522](https://doi.org/10.1371/journal.pone.0065522)
28. **D'Agostino, D.P.**, Pilla, R., Held, H.E., Landon, C.S., Puchowicz, M., Brunengraber, H., Ari, C., Arnold, P. and Dean, J.B. Therapeutic ketosis with ketone ester delays central nervous system oxygen toxicity seizures in rats. *AJP Regulatory, Integrative and Comparative Physiology*, 2013 May 15;304(10):R829-36. DOI: 10.1152/ajpregu.00506.2012.
29. Paoli A, Grimaldi K, **D'Agostino D**, Cenci L, Moro T, Bianco A, Palma A. Ketogenic diet does not affect strength performance in elite artistic gymnasts. *Journal of International Society Sports Nutrition*. 2012 July 26;9(1):34, DOI: 10.1186/1550-2783-9-34
30. **D'Agostino DP**, McNally H, Dean JB. Hyperbaric atomic force microscopy (AFM) and fluorescence microscopy for biological applications. *Journal of Microscopy*; Jan 12; 245 (3), 2012. DOI: 10.1111/j.1365-2818.2011.03599.x. PMID: 22455392
31. **D'Agostino DP**, McNally H, Dean JB. Development and testing of hyperbaric atomic force microscopy (AFM) for biological applications. *Microscopy and Microanalysis*, 2011. vol. 16, issue S2, pp. 1042-1043. DOI: 10.1017/S1431927610057739.



32. **D'Agostino DP**, Olson JE, Dean JB. Acute hyperoxia increases lipid peroxidation and induces plasma membrane blebbing in human U87 glioblastoma cells. *Neuroscience*; 2009; Mar 31;159(3):1011-22. DOI: 10.1016/j.neuroscience.2009.01.062. PMID: 19356685
33. **D'Agostino DP**, Mazza EM, Neubauer JA. (2008) Heme oxygenase is necessary for the excitatory response of cultured neonatal rat rostral ventrolateral medulla neurons. *AJP Regulatory, Integrative and Comparative Physiology*. 2009. Jan;296(1):R102-18. 10.1152/ajpregu.90325 PMID: 18971354
34. **D'Agostino DP**, Colomb DG Jr, Dean JB. Effects of hyperbaric gases on membrane nanostructure and function in neurons. *J Appl Physiol*. 2009 Mar;106(3):996-1003 Review. PMID: 18818382. DOI: 10.1152/jappphysiol.91070.2008.
35. **D'Agostino DP**, Putnam RW, and Dean JB. Superoxide ( $\cdot\text{O}_2^-$ ) production in CA1 neurons of rat hippocampal slices exposed to graded levels of oxygen. *Journal of Neurophysiology*. 2007. Aug;98(2):1030-41. PMID: 17553943

#### MANUSCRIPTS SUBMITTED:

1. Boros L, **D'Agostino DP**, Patel H, Katz HE, Kesl SL, Collins Q, Roth JP, Ari C, Meuillet EJ, Dózsa CS, Fórizs I, Fekete J, Demény A, Somlyati G. *Deuterons Disrupt Proton Transit by the FOF1 Subunit of ATPase: The Balancing Role of Deuterium Depleted Metabolic Matrix Water*. (Submitted: Cell)

#### MANUSCRIPTS IN PREPARATION:

1. Koutnik AP, Poff AM, Ward NP, DeBlasi JM, **D'Agostino DP**; Establishing that the VM-M3Model of Metastatic Cancer Exhibits Cancer Cachexia. (Manuscript in preparation)
2. Rogers CQ, Ramirez M, Landon CS, DeBlasi JM, Koutnik AP, Poff AM, **D'Agostino DP**; Glutamic-Oxaloacetic Transaminase Combined with Metabolic Therapy in a Mouse Model of Amyotrophic Lateral Sclerosis. (Manuscript in preparation)
3. Poff AM, Koutnik AP, Egan KM, Sahebjum S, D'Agostino DP, Kumar NB. Targeting the Warburg Effect: Implications for Management of Glioma. *Seminars in Cancer Biology*. (Under Review)
4. McNally HA, Ibrahim O, Ari C, **D'Agostino DP**, Byrne HJ. Ketone Protection of Nuclear DNA in Primary Cortical Neurons following Hyperbaric Oxygen Exposure monitored in vitro with RAMAN Spectroscopy. (Manuscript in preparation)
5. Kesl SL, Jung MY, Sherwood JW, Wu M, Gould LJ, **D'Agostino, DP**. Dietary Ketone Supplementation Increases Blood Flow and Wound Closure in an Ischemic Wound Model in Young and Aged Fisher Rats (Manuscript in preparation)

**RESEARCHER ID: I-6196-2012:** <http://www.researcherid.com/rid/I-6194-2012>

**PUBMED:** [LIST OF PUBLICATIONS ON PUBMED:](#)

#### BOOKS AND CHAPTERS

1. Angela M. Poff, Heather A. Annis, Harry T. Whelan, Csilla Ari, **Dominic P. D'Agostino** Chapter 41: *Ketogenic Diet and Ketogenic Supplementation for Central Nervous System Oxygen Toxicity*; *Hyperbaric Medicine Practice* 4<sup>th</sup> Edition. 2017. Best Publishing Company. [https://www.bestpub.com/books/hyperbaric-a-undersea-medicine/product/hyperbaric-medicine-practice-4th-edition/category\\_pathway-31.html](https://www.bestpub.com/books/hyperbaric-a-undersea-medicine/product/hyperbaric-medicine-practice-4th-edition/category_pathway-31.html)
2. Travis Christofferson (Author), Dominic D'Agostino (Foreword): *Tripping over the Truth: How the Metabolic Theory of Cancer Is Overturning One of Medicine's Most Entrenched Paradigms*: Chelsea Green Publishing 2017.
3. Poljsak B, Seyfried TN, **D'Agostino DP**, Poff AM, Milisav I. *Reduction of Sporadic Malignancies by Stimulation of Cellular Repair Systems and by Targeting Cellular Energy Metabolism* (2017) Nova Publishers; ISBN: 978-1-53610-773-9
4. Poff AM, Kesl S, **D'Agostino DP**. (2016) Chapter 32: Ketone Supplementation for Health and Disease. *Ketogenic Diet and Metabolic Therapies: Mechanisms and Applications. Ketone supplementation for health and disease*. pgs 310-327; (Oxford University Press ISBN: 9780190497996) <https://global.oup.com/academic/product/ketogenic-diet-and-metabolic-therapies-9780190497996?cc=ca&lang=en&>
5. **D'Agostino DP**. (2016) Chapter 31: Ketone-Based Metabolism. (Oxford University Press ISBN: 9780190497996) <https://global.oup.com/academic/product/ketogenic-diet-and-metabolic-therapies-9780190497996?cc=ca&lang=en&>
6. Ari, C., Pilla, R., **D'Agostino DP**. (2014) Nutritional/Metabolic therapies in animal models of ALS, Alzheimer's disease, and seizures, in: *Bioactive Nutraceuticals and Food Supplements in Neurological and Brain Disease*, Chapter 47. Prevention and Therapy, 2015, Pages 449–459. DOI 10.1016/B978-0-12-411462-3.00047-3
7. Dean JB and **D'Agostino DP**. (2007) Pressure Effects of Human Physiology. IN: "Physiology and Medicine of Hyperbaric Medicine Therapy"; Edited by Tom S. Neuman and Stephen R. Thom; 2007.
8. Neubauer JA, Sunderram J, Ritucci N and **D'Agostino DP**. (2002). Oxygen sensitivity of central cardio-respiratory regions. IN: *Oxygen Sensing Responses and Adaptation to Hypoxia*; in the series, "Lung Biology in Health and Disease". Edited by S. Lahiri, G. Semenza and N.R. Prabhaker. New York: Marcel Dekker, Inc., 2002, 633-642.

#### MAGAZINE AND NEWS ARTICLES

1. Christoffersen T; **D'Agostino DP**. (2015). Paleo Solution. *The Origin (and future) of the Ketogenic Diet – Part 1-3*: <http://robbwolf.com/2015/09/24/the-origin-and-future-of-the-ketogenic-diet-part-1/>
2. Poff AM, **D'Agostino DP**. (May 2014) Hyperbaric oxygen therapy. *The South African Journal of Natural Medicine*, Vol. 107.
3. Poff AM, **D'Agostino DP**. (April 2014) The ketogenic diet and how it affects weight loss. *The South African Journal of Natural Medicine*, Vol. 106.

#### ABSTRACTS PUBLISHED

1. Ari, C; Koutnik, A.P; DeBlasi, J; Landon, C; Dean, J.B; **D'Agostino, D.P.** (May 2017) Comparison of Exogenous Ketone Supplements on Delayed Latency to CNS Oxygen Toxicity (CNSOT) Seizures, Office of Naval Research Annual Review Meeting, San Diego
2. DeBlasi JM, Ward NP, Poff AM, Koutnik AP, Rogers CQ, Diamond DM, **D'Agostino DP;** Pharmacological Ascorbic Acid and Hyperbaric Oxygen Therapy Target Tumor Cell Metabolism via an Oxidative Stress Mechanism. USF Health Research Day. February 2017; Tampa, FL.
3. DeBlasi JM, Ward NP, Poff AM, Koutnik AP, Rogers CQ, Diamond DM, **D'Agostino DP;** Pharmacological Vitamin C and Hyperbaric Oxygen Therapy as Pro-oxidative, Metabolic, Anti-cancer Therapies. USF Undergraduate Research Colloquium. April 2017; Tampa, FL.
4. Poff AM, Kesl SL, Koutnik AP, Ward NP, Ari C, Deblasi J, **D'Agostino DP.** Characterizing the Metabolic Effects of Exogenous Ketone Supplementation – an Alternative or Adjuvant to the Ketogenic Diet?; Federation of American Societies for Experimental Biology Journal; April 2017; Chicago, IL.
5. Koutnik AP, Poff AM, Ward NP, DeBlasi JM, **D'Agostino DP.** Ketogenic Therapies on Cancer Cachexia in a Mouse Model of Metastatic Cancer. Experimental Biology, April 22-26th, 2017, Chicago,
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7. Koutnik AP, Poff AM, Ward NP, DeBlasi JM, **D'Agostino DP.** VM-M3 Model is Dependent on Metastasis to Induce Cachexia. Keystone Tumor Metabolism and Hypoxia Conference, March 4-10th, 2017, Whistler, British Columbia, CA.
8. Koutnik AP, Poff AM, Ward NP, DeBlasi JM, **D'Agostino DP.** Cancer Cachexia and Metabolic Therapeutics in a Mouse Model of Metastatic Cancer. Conference on Metabolic Therapeutics & Nutritional Ketosis, February 1-4th, 2017, Tampa, FL.
9. DeBlasi JM, Ward NP, Poff AM, Koutnik AP, Rogers CQ, Diamond DM, **D'Agostino DP;** Hyperbaric oxygen therapy potentiates anti-cancer effect of pro-oxidative ascorbic acid. 52<sup>nd</sup> National Collegiate Honors Council Annual Conference. November 2017; Atlanta, GA.
10. DeBlasi JM, Ward NP, Poff AM, Koutnik AP, Rogers CQ, Diamond DM, **D'Agostino DP;** Anti-Cancer Effects of Ascorbic Acid and Hyperbaric Oxygen Therapy in vitro. Federation of American Societies for Experimental Biology Journal. April 2017; Chicago, IL.
11. Ward NP, DeBlasi JM, Poff AM, Koutnik AP, **D'Agostino DP.** Modulators of Mitochondrial Electron Transport Enhance Dichloroacetate Cytotoxicity Towards VM-M3 Glioblastoma Cells. Conference on Metabolic Therapeutics & Nutritional Ketosis, February 1-4th, 2017, Tampa, FL.

12. DeBlasi JM, Poff AM, Koutnik AP, Rogers CQ, Diamond DM, **D'Agostino DP**. Pharmacological Ascorbic Acid and Hyperbaric Oxygen Therapy Target Tumor Cell Metabolism via an Oxidative Stress Mechanism. Conference on Metabolic Therapeutics & Nutritional Ketosis, February 1-4th, 2017, Tampa, FL
13. Ari, Csilla; Kovacs, Zsolt; Juhasz, Gabor; Murdun, Cem; Goldhagen, Craig R; Koutnik, Andrew; Poff, Angela M; Kesl, Shannon L; **D'Agostino, DP**. (2016) Exogenous ketone supplements reduce anxiety-related behavior in Sprague-Dawley and Wistar Albino Glaxo/Rijswijk rats. *International Behavioral Neuroscience Society (IBNS)*; Budapest, Hungary
14. Ari, Csilla; Murdun, Cem; Goldhagen, Craig; Rogers, Christopher; **D'Agostino, DP**. (2016). Elevated blood ketone levels increase the latency of anesthetic induction in GLUT1 mouse model. *International Behavioral Neuroscience Society (IBNS)*; Budapest, Hungary
15. Koutnik, A. P., Poff, A.M., Ward, N. P., Ramirez, M. L., **D'Agostino, D. P.** (2016). Cancer Cachexia in a Mouse Model of Systemic Metastasis. Tumor Metabolism and Immunology Keystone Symposium
16. Koutnik, A. P., Poff, A.M., Ward, N. P., Ramirez, M. L., **D'Agostino, D. P.** (2016). Establishing VM-M3 as a Model of Cancer Cachexia. Experimental Biology
17. Ari C, Murdun C, Goldhagen C, Rogers C, **D'Agostino D.P.** (2016) The effect of ketogenic diet and ketone supplementation on the motor function of GLUT1 deficiency mouse model, 1st Annual Conference on Nutritional ketosis and Metabolic Therapeutics, Tampa, FL, USA
18. Ari, C, Decker, S., Ford, J., **D'Agostino, D.P.** (2016) What can we learn from deep-diving elasmobranchs to help humans adapt to extreme underwater environments? *1st Annual Conference on Nutritional ketosis and Metabolic Therapeutics*, Tampa, FL, USA
19. Ari C, Poff A.M., Kesl S.L, Goldhagen C.R., Murdun C, **D'Agostino D.P.** (2016) Chronic administration of exogenous ketone supplements reduces anxiety in Sprague-Dawley rats, *1<sup>st</sup> Annual Conference on Nutritional ketosis and Metabolic Therapeutics*, Tampa, FL, USA
20. Ari C, Murdun C, Goldhagen C, Rogers C, **D'Agostino D.P.** (2016) Elevated blood ketone levels increase the latency of anesthetic induction in GLUT1 mouse model, *1<sup>st</sup> Annual Conference on Nutritional ketosis and Metabolic Therapeutics*, Tampa, FL, USA
21. Poff AM, Kesl SL, Ward NP, **D'Agostino DP**. Exogenous ketone supplementation – an alternative or adjuvant to the ketogenic diet? February 2016, Tampa, FL. *Keystone Symposia on Frontiers in Tumor Metabolism*
22. Poff AM, Kesl SL, Ward NP, **D'Agostino DP**. Exogenous ketone supplementation – an alternative or adjuvant to the ketogenic diet? January 2016, Tampa, FL. *Conference on Nutritional Ketosis and Metabolic Therapeutics*
23. Ward NP, Poff AM, Koutnik AP, **D'Agostino DP** (2016) Metformin modulation of dichloroacetate-induced oxidative stress and its impact on mitochondrial integrity in VM-M3 glioblastoma cells. Poster presented at *New Frontiers in Understanding Tumor Metabolism*, Banff, AB, Canada.

24. Ward N, Poff AM, Koutnik AP, **D'Agostino DP.** (2016). Metformin Modulation of Dichloroacetate-Induced Oxidative Stress and its Impact on Mitochondrial Integrity in VM-M3 Glioblastoma Cells. April 2016 *The FASEB Journal*. vol. 30 no. 1 Supplement1099.17
25. Poff A, Kesl S, Ward N; **D'Agostino DP.** (2016)Metabolic effects of exogenous ketone supplementation – an alternative or adjuvant to the ketogenic diet as a cancer therapy? April 2016; *The FASEB Journal*. vol. 30 no. 1 Supplement1167.
26. Poff AM, Ward N, Seyfried T, **D'Agostino D.** Ketosis and hyperbaric oxygen metabolic therapy. (2015), Philadelphia, PA. *Proceedings: AACR 106<sup>th</sup> Annual Meeting 2015*, vol. 75, issue 15, abstract 1159.
27. Poff AM, Kesl SL, Ari C, Ward NP, Fiorelli TN, Rogers CQ, Van Putten AJ, Sherwood JW, **D'Agostino DP.** (2015) Development and characterization of exogenous ketone supplements – novel methods of inducing therapeutic ketosis; Poster: *Glut1 Deficiency Foundation Conference*, Orlando, FL, USA
28. Ari C, Murdun C, Goldhagen C, Rogers C, **D'Agostino D.P.** (2015) The effect of ketogenic diet and ketone supplementation on the motor function of GLUT1 deficiency mouse model. Poster: *Glut1 Deficiency Foundation Conference*, Orlando, FL, USA
29. Ari C, Poff A.M., Kesl S.L, Goldhagen C.R., Murdun C, **D'Agostino D.P.** (2015) Chronic administration of exogenous ketone supplements reduces anxiety in Sprague-Dawley rats. Poster: *Glut1 Deficiency Foundation Conference*, Orlando, FL, USA
30. Ari C, Murdun C, Goldhagen C, Rogers C, **D'Agostino D.P.** (2015) Elevated blood ketone levels increase the latency of anesthetic induction in GLUT1 mouse model. Poster: *Glut1 Deficiency Foundation Conference*, Orlando, FL, USA
31. Ari, C., **D'Agostino, D.P.** (2015) Melanosome aggregations might cause giant manta ray skin change color, *American Elasmobranch Society Meeting*, Reno, USA
32. Ari, C., **D'Agostino DP.** (2015) Non-toxic metabolic management of metastatic cancer: Novel combination of ketogenic diet, ketone supplementation, and hyperbaric oxygen therapy May 6-8, 3rd *International Congress of Deuterium Depletion*, Budapest, Hungary
33. Ari, C., **D'Agostino DP.** (2015) Neuroprotective metabolic therapies by the ketogenic enhancement of the Szentgyorgyi-Krebs cycle: studies in animal models, May 6-8, 3rd *International Congress of Deuterium Depletion*, Budapest, Hungary
34. Poff AM, Ward N, Seyfried T, **D'Agostino DP.** Ketosis and hyperbaric oxygen therapy elicit anti-cancer effects in a mouse model of metastatic cancer. *The FASEB Journal*. vol. 29 no. 1 Supplement725.13 March 2015; Boston, MA.
35. Ward NP, Poff AM, Van Putten AJ, Seyfried TN, **D'Agostino DP.** Evaluating a dichloroacetate and metformin combination in a mouse model of metastatic cancer. *The FASEB Journal*.Vol. 29 no. 1 Supplement725.10. March 2015; Boston, MA.
36. Kesl SL, Poff AM, Ward NP, Fiorelli TN, Ari C, Van Putten AJ, Sherwood JW, Arnold P, **D'Agostino DP.** Effect of Sustaining Dietary Ketosis on the Hippocampal and Serum Metabolome of Sprague-Dawley Rats. *The FASEB Journal*. vol. 29 no. 1 Supplement745.4. March 2015; Boston, MA.

37. Ari, C., Decker, S., Ford, J., **D'Agostino, DP.** (2015) What can we learn from deep-diving elasmobranchs to help humans adapt to extreme underwater environments? *The FASEB Journal*, Vol. 29: 1, Supplement 678.18.
38. Ari, C., Poff, A., Landon, C., Goldhagen, C.R., Mavromates, N., Kesl, S., Ward N.P., Fiorelli T.N., Van Putten A.J., Sherwood J.W., Arnold P., **D'Agostino, DP.** (2015) Metabolic therapies improve mitochondrial morphology and function, *The FASEB Journal*, Vol. 29:1 Supplement 1036.10.
39. Poff AM, Ward N, Seyfried T, **D'Agostino DP.** Ketosis and hyperbaric oxygen therapy elicit potent anti-cancer effects in vitro and in vivo. *Integrating Metabolism and Tumor Biology – Keystone Symposia*; January 2015; Vancouver, British Columbia.
40. Ward NP, Poff AM, Van Putten AJ, Seyfried TN, **D'Agostino DP.** Evaluating a dichloroacetate and metformin combination in a mouse model of metastatic cancer. *Integrating Metabolism and Tumor Biology – Keystone Symposia*; January 2015; Vancouver, British Columbia.
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4. **Dominic P. D'Agostino**; Angela Poff; "Targeting Cancer with Metabolic Therapy and Hyperbaric Oxygen" (Patent: WO2014085652 A1, University of South Florida): <http://www.google.com/patents/WO2014085652A1?cl=en>

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9. Edwin Weeber; **Dominic D'Agostino**; Stephanie Ciarlone: “Ketone Esters for Treatment of Angelman Syndrome” (United States Patent No. 9,364,456 on June, 2016) <http://www.freepatentsonline.com/9364456.html>
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12. **Dominic P. D'Agostino**; Patrick Arnold; Dean J.B: Treating neurological disorders e.g. Alzheimer’s disease arising from impaired brain metabolism involves inducing mild ketosis in a subject by administering a dose of ketone ester. (Patent: CA2873057-A1)
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14. **Dominic D'Agostino**, Janine Deblasi, Andrew Koutnik, Angela Poff; USF Ref. No.: 17A044 - Pharmacological Ascorbic Acid and Hyperbaric Oxygen as Pro-oxidative, Metabolic, Anti-cancer Therapies
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21. Ari, C., **D`Agostino, D.P.** Dean, J.B. Technology Title: “Delaying latency to seizure by combinations of ketone supplements.” USF Ref. No: 16B138PR (provisional patent)

## INVITED PRESENTATIONS, LECTURES AND KEYNOTES

1. HBOT2017 (International Hyperbaric Medicine Foundation) (New Orleans, LA: August 19-20<sup>th</sup>): *Overview on the use of Hyperbaric Oxygen Therapy for Cancer* <http://hbot2017.com/>
2. Master the Possibilities (Ocala, FL; August 8, 2017); *Ketogenic Nutrition for Cancer Therapy and Adjuvant for Cancer Management*
3. Low Carb USA, 2<sup>nd</sup> International Conference (San Diego, CA: August 4-6<sup>th</sup>); *Emerging Applications and Implementation of Nutritional Ketosis* <https://go.lowcarbusera.org/videos-optin>
4. Glucose Transporter 1 Deficiency Syndrome (GLUT1DS) Conference; (Nashville, TN: July 2017); *Exogenous Ketone Research: Therapeutic and Signaling Effects* <http://www.g1dfoundation.org/conferences-2/2017-conference-nashville/>
5. University of Florida, McKnight Brain Institute; Department of Neuroscience; (March 2, 2017); *Emerging Applications of Exogenous Ketones*
6. Boston College; Invited speaker: Department of Biology; (Nov. 15, 2016): *Therapeutic Ketosis: Regulation, Signaling and Applications*
7. Boston College; Invited lecture;; (Nov. 15, 2016): Lecture subject: *Cancer as a Metabolic Disease: Press Pulse Therapies*
8. Morsani College of Medicine; Third year DPT students. USF School of Physical Therapy & Rehabilitation Sciences: *Nutrition Expert Panel: Health Promotion and Wellness*
9. Fifth Ketogenic Diet Symposium (Sept 23, 2016; Banff, Canada): Invited speaker: *In Vitro Model Systems for Cancer* Moderator and Panel Discussant for Ketogenic Diet and Cancer. <http://www.ketococonnect.org/>
10. Preventive and Integrative Medicine Interest Group; Morsani College of Medicine, University of South Florida (Sept. 15, 2016): *Neurological Applications of Nutritional Ketosis*
11. BioLayne Foundation Fitness Camp Conference: University of South Florida, Morsani College of Medicine (August 5-6, 2016). *Ketone Metabolites as Signaling Molecules for Prevention of Cachexia.*
12. Low Carb USA, 1<sup>st</sup> International Conference (Westin Gaslamp Dist, San Diego, CA: July 30<sup>th</sup>); *Ketone Metabolites as Signaling Molecules* <https://go.lowcarbusera.org/videos-optin>
13. Keiser University (Tampa, FL; May 24, 2016). *Metabolic-Based Research and Approaches to Target Neurological Disorders*

14. Arizona Naturopathic Medical Association (AzNMA). (Scottsdale, AZ, May 20-21, 2016); *Ketogenic Nutrition and Supplementation as an Adjuvant for Cancer Management*
15. Hyperbaric Medical Solutions (Woodbury, NY; May 10, 2016): *Combined use of HBOT and Ketogenic Diet for Cancer Management*. <http://hyperbaricmedicalsolutions.com/drhoffman-com-2016-05-10-001/>
16. Office of Naval Research Workshop on Decompression Sickness (DCS) and Central Nervous System (CNS) Oxygen Toxicity: (ONR; Washington DC; May 13, 2016); *CNS Oxygen Toxicity: Mitigation Strategy*
17. US Army Research, Development and Engineering Command; Natick Soldier Research Center (Natick, MA; January 21-23, 2016): *Nutritional Ketosis: Implications for Warfighter Health, Performance and Resilience*
18. Office of Naval Research (ONR) Undersea Human Performance Workshop; Naval Research Laboratory (San Diego, CA; 2016); *Metabolic Countermeasures for Performance and Resilience in the Undersea Environment*
19. US Special Operations Command (SOCOM): (Fort Bragg; NC; January 5-6, 2016); *Nutritional Ketosis: Implications for Warfighter Health, Performance and Resilience*
20. SEAL FIT Workshop: (San Diego, CA; Dec 4-5, 2015): *Exogenous Ketones for Warfighter Safety Performance and Resilience*
21. University of Alabama at Birmingham (UAB); Nutrition Obesity Research Center and Department of Nutrition Sciences. (Birmingham, Alabama; Oct. 6 -7, 2015): *Nutritional Ketosis: Implications for Obesity and Associated Disease States*
22. UCB Epilepsy Summit I: Advancing Innovative Science into Patient Solutions (Braine-l'Alleud, Belgium; Sept. 30 – Oct.1, 2015); *Metabolism of glioma cells and tumors associated with epilepsy – role of ketogenic diet*
23. NASA Johnson Space Center: Department of Biomedical Research & Environmental Sciences; (Houston, TX; August 27, 2015); *Metabolic Countermeasures Nutritional Strategies for Long Duration Space Flight*
24. NASA Johnson Space Center: Department of Exercise Physiology; Human Research Program (HRP): (Houston, TX; August 26, 2015); *Superfuel: Synthetic Ketones as a Strategy for Long Duration Space Flight: Mitigating Physiological Risks*
25. NASA-sponsored meeting on Biological Countermeasures (BCMs) against Space Radiation Risks (IHMC Pensacola; Aug 18-19, 2015); *Metabolic Approaches to Reducing Radiation-Induced Carcinogenesis, Oxidative Stress and Inflammation*
26. NASA-sponsored meeting on Human Performance and Resilience in Space and Undersea Environments (IHMC Pensacola; August 11-12, 2015); *Metabolic Countermeasures Against Physiological Effect of Space and Undersea Environments*
27. BioLayne Foundation Conference: University of South Florida, Morsani College of Medicine (July 31- Aug 1, 2015). *Metabolic Interventions for Neurological Resilience and Improved Body Composition*



28. Genentech, Department of Molecular Oncology (San Francisco, CA; June 19-20); *Understanding the Molecular Mechanism of the Ketogenic Diet; Druggable Targets*
29. Notable Labs (San Francisco, CA; June 17-18); *Development of a Nontoxic Metabolic Therapy for Cancer; Molecular Pathways*
30. Drexel University 4th Annual Sport Nutrition Conference (Philadelphia, PA; May 19, 2015); *Keynote: Metabolic Strategies for Enhanced Performance and Body Composition*
31. Third International Conference on Deuterium Depletion (Budapest Hungary; May 7-8, 2015); *Keynote Lecture: Non-toxic metabolic management of metastatic cancer: Novel combination of ketogenic diet, ketone supplementation, and hyperbaric oxygen therapy*
32. McKnight Brain Institute; University of Florida (UF; Gainesville, FL; April 27, 2015); *Neuroprotective Metabolic Strategies*
33. NASA BlueSky Workshop on Exercise Technologies and Methods for Space Exploration (IHMC Pensacola; Feb 11-12, 2015); *Metabolic Strategies to Preserve and Enhance Exercise Performance and Adaptation for Human Spaceflight*
34. University of Tampa Conference on Human Performance and Nutrition; Department of Exercise Physiology (Tampa, FL; Feb, 2015); *Keynote Lecture: Ketogenic Dieting: Emerging Evidence of Fat and Ketones as Fuel*
35. Eötvös Loránd University; Institute of Biology; (Budapest Hungary; Oct 15, 2014); *Ketogenesis as an antiseizure and anticancer strategy: Cellular and molecular mechanism.*
36. Matthew's Friends 4th Global Symposium for Dietary Therapies for Epilepsy and other Neurological Disorders for Health Care Professionals (Liverpool, UK, Oct 7-11, 2014); *Moving towards Neuroprotection?*
37. Institute for Human and Machine Cognition (IHMC, Ocala, FL; September 25, 2014); *Metabolic Therapies: Therapeutic Applications and Practical Implementation.*
38. International Hyperbaric Oxygen Therapy Conference (New Mexico; Aug 22-24); *Hyperbaric Oxygen and Ketogenic Diet as an Adjuvant for Cancer Therapy*
39. Ancestral Health Symposium (AHS; Berkeley, CA; Aug 6-9); Panel Speaker: *Ketogenic Diet for Cancer*
40. BioLayne Foundation Conference on Physical Performance: University of South Florida, Morsani College of Medicine (July 21- July 23, 2014). *Ketogenic Nutrition: Effect on body Composition and Metabolic Biomarkers*
41. International Society of Sports Nutrition (ISSN; Clearwater, FL; June 19-21, 2014); *Metabolic Strategies for Enhanced Physical and Cognitive Performance*
42. Epilepsy Pipeline Conference (San Francisco, CA; June 5-7, 2014); *Ketogenic Compounds for the Treatment of Epilepsy*
43. NASA Blue Sky Workshop at Cosmos Club (Washington D.C.; May 29-June 1, 2014); *Ketones for Astronaut Safety, Performance and Resilience*
44. Beckman Institute, University of Illinois (Champaign, IL; May 2014); *Metabolic Strategy for Enhancing Physiological and Cognitive Resilience*

45. Alzheimer's Disease International (ADI) Conference (Puerto Rico, May 2014); *Medium Chain Triglycerides and Ketone Supplementation for Alzheimer's Disease*
46. Institute for Human and Machine Cognition (IHMC, Pensacola, FL: April 2014): *Metabolic Therapies: Therapeutic Applications and Practical Implementation*
47. Alternative and Complementary Medicine Conference (Palm Beach, FL. March 2014): *Hyperbaric Oxygen and Ketogenic Diet as an Adjuvant for Cancer Therapy*
48. American Epilepsy Society (AES); (Washington D.C.; Dec 2013): *Ketone Esters for Seizures: A Ketogenic Diet in a Pill?*
49. TEDx Talk Tampa Bay (St. Pete, FL; Palladium Theater; Oct, 2013); *Cancer as a Metabolic Disease: Implications for Therapies.* <https://www.youtube.com/watch?v=3fM9o72ykww>
50. National Cancer Institute (NCI) Workshop on Cancer Metabolism, Oxidative Stress and the Warburg Effect. Arizona State University. (Phoenix, Arizona; Nov. 6-8, 2013): *Hyperbaric Oxygen as an Adjuvant for Cancer Therapy*
51. Glucose Transporter 1 Deficiency Syndrome (GLUT1DS) Family Conference; (Houston, TX: July 2013); *Ketone Ester Research: Application for GLUT1DS.*
52. University of Tampa; Department of Exercise Physiology (Tampa, FL; June 7, 2013): *Ketogenic Strategies for Enhancement of Cognitive and Physical Performance*
53. Food and Drug Administration (FDA): Considerations Regarding Food and Drug Administration Review and Regulation of Drugs for the Treatment of Amyotrophic Lateral Sclerosis (ALS); (Silver Spring, Maryland, Feb 25, 2013); *Ketones and Alternative Fuels for ALS.* <http://www.fda.gov/Drugs/NewsEvents/ucm339833.htm>
54. Israel Society for Hyperbaric and Diving Medicine (ISHDM), XII biennial International High Pressure Biology Group (IHPBG). (Eilat, Israel; November 9, 2012); *Metabolic Mitigation Strategy for CNS Oxygen Toxicity Seizures*
55. Glucose Transporter Type 1 Deficiency Syndrome Conference; Remi Savioz Glut1 Foundation (RSG1); (Orlando, FL; July 2012); *Development and Testing of Metabolic Therapies for Seizure Disorders*
56. Eötvös Loránd University; Institute of Biology; (Budapest Hungary; July 2012); *Development and Testing of Metabolic Therapies for Neurological Disorders and Cancer*
57. Eötvös Loránd University; Szivarvany Institute; (Budapest Hungary; July 2012); *Nutritional Management of Neurological Disorders and Cancer: Epigenetics"*
58. University of Tampa; Department of Exercise Physiology (Tampa, FL; June 2012): *Overtraining Syndrome: Nutritional and Metabolic Strategies to Prevent Central Nervous System Fatigue*
59. Barrow Neurological Institute (Phoenix, AZ; February 2012); *Therapeutic Ketosis for Seizures and Cancer Treatment*
60. University of Oxford (Oxford, United Kingdom: September 2011). *Therapeutic Ketosis for Neurological Disorders*
61. University of Padua (Italy; September 2011). *Ketogenesis as a Therapeutic Strategy for CNS Oxygen Toxicity and Other Neurological Disorders*

62. ONR Undersea Medicine Program Review (Seattle, Washington, August 2010): Project Summary: *Cellular and Molecular Studies of CNS oxygen toxicity*
63. University of Florida (Gainesville, FL; April 2010). *Metabolic Therapy as a strategy to Target Malignant Brain Cancer*
64. Undersea and Hyperbaric Medicine Society (UHMS) Meeting/ONR Undersea Medicine Program Review (Salt Lake City, Utah, July 2008): Project Summary (Yr3): *Hyperbaric Atomic Force Microscopy Analysis Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
65. USF College of Aging Studies, Tampa, FL (annual talk: 2009-2011). *Neuroprotection from Ketogenesis*
66. ONR Undersea Medicine Program Review (Groton, CT; July 2007): Project Summary (Yr2): *Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
67. Società Italiana di Medicina Subacquea ed Iperbarica (Fidenza, Italy, 2007). *Atomic Force Microscopy (AFM) Analysis of Hyperoxia-Induced Morphological Changes in Cellular Membranes*
68. ONR Undersea Medicine Program Review (Duke University; July 2006): Project Summary (Yr1): *Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
69. Experimental Biology: Pre-doctoral Award Presentation (FASEB; San Diego, CA; April 12, 2003); *Hypoxic Chemosensitivity of Neurons in the Pre-Botzinger Complex of the rostral Vento-lateral Medulla*
70. Dartmouth College: Dartmouth Medical School (Hanover, NH; Dec. 12-13 2002). *Hypoxic Chemosensitivity and the Neural Control of Autonomic Regulation: Role of Heme Oxygenase-2 (HO-2)*.
71. International Congress of Physiological Sciences (IUPS): Workshop on neural control of breathing (Christchurch, New Zealand, Sep 6-7, 2001). *Hypoxic chemosensitivity of cardiorespiratory regions of the rostral ventrolateral medulla (RVLM)*

#### **OUTREACH EVENTS: SERVICE, PODCASTS, ARTICLES, NEWS, MEDIA**

1. NPR: WSRQ Talk Radio for Sarasota (Heidi Godman:: Life as an Aquanaut and Mission Objectives for NASA NEEMO22. <http://sarasotatalkradio.com/>
2. The Ripple Effect Podcast: # 132 (Dominic D'Agostino Ph.D. | *The Ketogenic Diet Expert*): [https://www.podomatic.com/podcasts/rvtheory6/episodes/2017-07-10T08\\_44\\_44-07\\_00](https://www.podomatic.com/podcasts/rvtheory6/episodes/2017-07-10T08_44_44-07_00)
3. Health Cast (July 6<sup>th</sup>, 2017): Dr. Dominic D'Agostino - Ketosis 101 - Basic Ketogenic Nutrition Principals for Health & Wellness: [http://healthcastnow.libsyn.com/dr-dominic-dagostino-ketosis-101-basic-ketogenic-nutrition-principals-for-health-wellness?utm\\_content=buffer42919&utm\\_medium=social&utm\\_source=facebook.com&utm\\_campaign=buffer](http://healthcastnow.libsyn.com/dr-dominic-dagostino-ketosis-101-basic-ketogenic-nutrition-principals-for-health-wellness?utm_content=buffer42919&utm_medium=social&utm_source=facebook.com&utm_campaign=buffer)
4. Tampa Bay Times: USF Professor joins NASA trek: <http://www.tampabay.com/news/science/space/usf-professor-joins-undersea-nasa-trek/2326831>

5. WUSF Public Media: “USF Professor Joins NASA Research At The Bottom Of The Ocean”: <http://wusfnews.wusf.usf.edu/post/usf-professor-joins-nasa-research-bottom-ocean#stream/0>
6. Fox 13 News: USF Professor Chosen as Part of NASA Expedition <http://www.fox13news.com/news/local-news/260324729-story>
7. EurekAlert! NASA mission tests ketogenic diet [https://www.eurekalert.org/pub\\_releases/2017-06/uosf-nmt060917.php](https://www.eurekalert.org/pub_releases/2017-06/uosf-nmt060917.php)
8. Tampa Business Journal: <http://www.bizjournals.com/tampabay/news/2017/06/09/usf-professor-tapped-as-only-non-astronaut-for.html>
9. Bioengineer Journal: NASA mission tests ketogenic diet undersea, simulating life on Mars. <https://bioengineer.org/nasa-mission-tests-ketogenic-diet-undersea-simulating-life-on-mars/>
10. USF HealthNews: USF researcher joins NASA deep-sea mission: <https://hscweb3.hsc.usf.edu/blog/2017/06/08/usf-researcher-joins-nasa-deep-sea-mission/>
11. Longroom Online Journal: NASA mission tests ketogenic diet. <https://www.longroom.com/discussion/525627/nasa-mission-tests-ketogenic-diet-undersea-simulating-life-on-mars>
12. Phys.org Journal: Ketogenic diet tested by NASA for Mars. <https://phys.org/news/2017-06-nasa-mission-ketogenic-diet-undersea.html>
13. Space Research News: <http://spaceref.com/neemo-1/neemo-22-expedition-prepares-to-depart.html>
14. Nootrobox Thinking Podcast (May, 2017): The Research Behind Ketones. <https://www.youtube.com/watch?v=7LQNLXP6MTk>
15. David Perlmutter Podcast (May, 2017) <http://www.drperlmutter.com/empowering-neurologist-david-perlmutter-dominic-dagostino/>
16. People Behind the Science Podcast: *Metabolic-Based Therapies as a Key Component for Treating Disease Pathologies* <http://www.peoplebehindthescience.com/dr-dominic-dagostino/>
17. How to Do Your 20s: Dom D’Agostino discusses Ketosis And The Benefits Of The Ketogenic Diet: <http://howtodoyour20s.com/ketosis-benefits-ketogenic-diet/>
18. Las Vegas Review Journal (March 2017); High-fat, low-carb ketogenic diet is ‘flexible,’ author says: <http://www.reviewjournal.com/life/health/high-fat-low-carb-ketogenic-diet-flexible-author-says>
19. SNR #167: Dom D’Agostino, PhD – Traumatic Brain Injury, CTE & Implications for Combat Sport Athletes (Feb. 2017). <http://sigmanutrition.com/episode167/>
20. Open Minds TV with Regina Meredith and Dominic D’Agostino (Feb. 2016): <http://bit.ly/OMKetogenicDiet>
21. Sigma Nutrition: SNR #164: Dominic D’Agostino, PhD – Press-Pulse Model of Cancer Therapy, Ketones & Metabolic Drugs (Jan. 2017). <https://sigmanutrition.com/episode164/>

22. Ben Greenfield Fitness Podcast: Ketone Esters vs. Ketone Salts. (Jan. 2017)  
<https://bengreenfieldfitness.com/2017/01/ketone-salts-vs-ketone-esters/>
23. School Me Podcast Episode #109; (Jan. 2017) <http://www.smpodcast.com/>
24. Dr. Dominic D'Agostino on the Ketogenic Diet | The Bodybuilding.com Podcast | Ep 4:  
<https://www.youtube.com/watch?v=pLwGCVnxfjU>
25. Vinnie Tortorich: Celebrity Trainer Podcast (Nov. 2016): *Ketosis and Weight Loss*.  
<https://player.fm/series/fitness-confidential-with-vinnie-tortorich/ketosis-and-weight-loss-with-dr-dominic-dagostino>
26. Ryan Munsey: Optimal Performance Podcast (Nov. 2016):  
<https://www.naturalstacks.com/blogs/news/benefits-of-ketogenic-diet-and-ketones-with-dominic-dagostino>
27. Tim Ferriss Podcast #3 (Oct, 2016); *Disease Prevention, Cancer and Longevity; Answering Listener Questions*. <http://fourhourworkweek.com/2016/09/25/dom-dagostino-on-disease-prevention-cancer-and-living-longer/>
28. SSD Podcast Episode #10 [https://soundcloud.com/abelcsabai/ssd-podcast-ep-10-dr-dominic-dagostino?utm\\_source=soundcloud&utm\\_campaign=share&utm\\_medium=facebook](https://soundcloud.com/abelcsabai/ssd-podcast-ep-10-dr-dominic-dagostino?utm_source=soundcloud&utm_campaign=share&utm_medium=facebook)
29. KetoAdvocate Interview: (Sept 22, 2016): "What are Exogenous Ketones vs Endogenous Ketones?" Recorded at The Charlie Foundation's 5th Global Symposium for Ketogenic Therapies in Banff, Alberta, Canada <https://www.youtube.com/watch?v=yBmYc02p3m0>
30. Charlie Foundation Interviews (Sept 22, 2016): *Mechanism of the Ketogenic Diet*  
[https://www.youtube.com/watch?v=TNoJbDfz\\_Y](https://www.youtube.com/watch?v=TNoJbDfz_Y)
31. FitFluential Radio (Podcast 1): Ketosis 101 – *Basic Ketogenic Nutrition Principals for Health & Wellness*: <http://fitfluential.com/2016/10/ketosis-101-basic-ketogenic-nutrition-principals-health-wellness-dr-dominic-dagostino/>
32. FitFluential Radio (Podcast 2): *Exogenous Ketones for Performance & Wellness*:  
<http://fitfluential.com/2016/10/exogenous-ketones-performance-wellness-dr-dominic-dagostino-part-2/>
33. Extreme Health Radio –Episode #460– How The Ketogenic Diet Affects Cancer, Seizures, Weight Loss, Diabetes, Hormones, Energy & Why You Should Consider It  
<http://www.extremehealthradio.com/ep-460-dr-dominic-dagostino-how-the-ketogenic-diet-affects-cancer-seizures-weight-loss-diabetes-hormones-energy-why-you-should-consider-it/>
34. KetoSummit (Ketosummit.com): *Neuro-Degenerative Diseases, Supplements, & Keto Disease Prevention*
35. Real Meal Revolution: *The link between Cancer, Insulin Resistance and a Ketogenic Diet*:  
<http://realmealrevolution.com/real-thinking/the-link-between-cancer-insulin-resistance-and-a-ketogenic-diet>

36. Outside Magazine (Sept, 2016), *Is the Ketogenic Diet Right for You?*  
[http://www.outsideonline.com/2113406/high-carb-low-fat-ketone-diet#st\\_refDomain=t.co&st\\_refQuery=/IJ1IxBjMEO](http://www.outsideonline.com/2113406/high-carb-low-fat-ketone-diet#st_refDomain=t.co&st_refQuery=/IJ1IxBjMEO)
37. Awakening from Alzheimer's Video Series (Episode #7):  
<http://event.awakeningfromalzheimers.com/episode-7/>
38. Medium.com News: *Preventing Seizures: An intro to the Ketogenic Diet.*  
<https://medium.com/ketowell/eating-fat-lifting-cows-and-preventing-seizures-an-intro-to-the-ketogenic-diet-with-dom-d-13dc94f2c601#.7tb1lt9pq>
39. "Live It 2 Lead It: High Performance Practice Growth: Part 3: Dr. Dominic D'Agostino, Ph.D August 30 @ 8:30 PM EST *The Power of Ketosis: Personal High Performance and Patient Clinical Results*
40. "Eat. Move. Hack." What if you got Cancer Today? Dom D'Agostino, responded: (Nov. 2015): <http://eatmovehack.com/what-if-you-got-cancer-today-heres-how-tim-ferriss-podcast-guest-dom-dagostino-responded/>
41. Tim Ferriss Blog: Potential Tactics for Defeating Cancer:  
<http://fourhourworkweek.com/2014/01/28/cancer-treatment/comment-page-3/#comments>
42. Smart Drugs Smarts (episode #163): *Science and Application of Idebenone*;  
<http://smartdrugsmarts.com/category/podcast-episode/>
43. Smart Drug Smarts: *Science and Application of Exogenous Ketone Supplementation for Cognition* <http://smartdrugsmarts.com/episode-147-ketosis-cognition/>
44. Planet Paws: Advancing Science and Research on Nutrition for Canine Cancer
45. Superhuman Radio: Science and Application of Exogenous Ketone Supplementation (SHR # 1924): <http://superhumanradio.com/shr-1924-science-for-humans-pre-diabetes-rebuttal-article-ketone-supplements.html>
46. Bulletproof Chicago Biohacking Event:  
<https://medium.com/@markmoschel/13dc94f2c601#.irp0zb1wr>
47. BizJournals: *USF patent helps epileptics, holds promise for cancer and Alzheimer's patients* (July 14, 2016) <http://www.malaysiasun.com/index.php/sid/245831981>
48. Men's Fitness: *The Truth Behind the World's Most Cutting Edge, Fat-Burning Performance Meal Plan: The Keto Diet* (July 2016).  
<http://www.mensfitness.com/nutrition/what-to-eat/truth-behind-worlds-most-cutting-edge-fat-burning-performance-meal-plan-keto>
49. Bulletproof Executive: *Keying in on Ketones* (July, 2016).  
<https://www.bulletproofexec.com/dominic-dagostino-325/>
50. Crossfit Journal: *Cancer Loves Cookies* (July 2016):  
<http://journal.crossfit.com/2016/07/cancer-loves-cookies.tpl#featureArticleTitle>
51. Tim Ferriss Podcast #2 (July 2016); *Power of the Ketogenic Diet; Answering Listener Questions.* <http://fourhourworkweek.com/2016/07/06/dom-dagostino-part-2/>
52. STEM Talk IHMC Podcast hosted by Dr. Ken Ford: (June, 2016); *Physiological Benefits of Nutritional Ketosis.* <http://www.ihmc.us/stemtalk/episode-14/>

53. Nourish Balance Thrive (June, 2016). *The Race to Make a Ketone Supplement*. <http://www.nourishbalancethrive.com/podcasts/nourish-balance-thrive/race-make-ketone-supplement/>
54. My Fitness Pal. (June 2016) *Is the Ketogenic Diet Safe for Weight Loss?* <http://blog.myfitnesspal.com/ketogenic-diet-safe-weight-loss/>
55. Quantified Body: *Leveraging Ketone Bodies for Health, Performance and Longevity* (June, 2016); <http://www.ihmc.us/stemtalk/episode-14/>
56. Mind Pump (June, 2016): *Breakthroughs in Ketogenic Diet Research* <http://artizen.audello.com/dom-dagostino-interview/>
57. New York Times (NYT Magazine): (May 12, 2016) Old Idea Revived; Starve Cancer to Death. [http://www.nytimes.com/2016/05/15/magazine/warburg-effect-an-old-idea-revived-starve-cancer-to-death.html?\\_r=0](http://www.nytimes.com/2016/05/15/magazine/warburg-effect-an-old-idea-revived-starve-cancer-to-death.html?_r=0)
58. Four Hour Work Week Blog.(June 2016). *Unpublished Material from the NYT Magazine article on Cancer Metabolism* <http://fourhourworkweek.com/2016/06/06/exclusive-unpublished-material-from-nyt-magazine-story-on-cancer>
59. Intelligent Medicine with Dr. Ronald Hoffman (Part 1 and 2): May 10, 2016: <http://drhoffman.com/podcast/metabolic-approaches-to-cancer-treatment-part-1/> and <http://drhoffman.com/podcast/metabolic-approaches-to-cancer-treatment-part-2/>
60. USF Health News: “USF’s hyperbaric physiology research extracts discoveries from extreme conditions”: May 8, 2016: [http://hscweb3.hsc.usf.edu/blog/2016/05/05/usfs-hyperbaric-physiology-research-extracts-discoveries-from-extreme-conditions/?utm\\_source=usfhealth\\_home&utm\\_medium=image-link&utm\\_content=main\\_image&utm\\_campaign=health%20home](http://hscweb3.hsc.usf.edu/blog/2016/05/05/usfs-hyperbaric-physiology-research-extracts-discoveries-from-extreme-conditions/?utm_source=usfhealth_home&utm_medium=image-link&utm_content=main_image&utm_campaign=health%20home)
61. Found my Fitness Show: Dr. Rhonda Patrick: Modified Ketogenic Diet and Exogenous Ketone Supplementation. <https://www.youtube.com/watch?v=IQ7pSXIWHrI>
62. Fit2Fat2Fit Podcast (Drew Manning): <https://www.fit2fat2fit.com/podcast/2016/3/30/ep031-will-adapting-to-a-ketogenic-diet-help-athletes-workout-more-efficiently-with-dr-dom-dagostino>
63. Calyx Performance: Boosting Brain Function and Fat Loss with the Ketogenic Diet (Part: 1 and 2): <https://calyxperformance.com/2016/03/dominicdagostinoketogenic1/> and <https://calyxperformance.com/2016/03/dominicdagostinoketogenic2/>
64. NPR News (K-PBS News): Fighting Cancer by putting Tumor Cells on a Diet (March 2016): <http://www.kpbs.org/news/2016/mar/05/fighting-cancer-by-putting-tumor-cells-on-a-diet/>
65. Beating Cancer: How Cutting Sugar Reversed One Man's Death Sentence (March 2016): <http://www1.cbn.com/cbnnews/healthscience/2016/February/Not-Just-By-Faith-How-the-Christian-Can-Overcome-Depression>
66. WTVT-TB (FOX) News - Tampa Bay, FL: Dietary interventions for Cancer (Feb. 2016): <http://mms.tveyes.com/Transcript.asp?StationID=1995&DateTime=3%2F8%2F2016+8%3A03%3A19+AM&Term=USF&PlayClip=TRUE>

67. Tampa Sun Times: USF Hyperbaric Biomedical Research Laboratory: (Feb. 2016)  
<https://www.youtube.com/watch?v=KRgX5gZ29R8>
68. Primal Edge Health Podcast: <http://www.primaledgehealth.com/ep-26-dr-dominic-dagostino-new-ketogenic-research-dha-and-keto-special-ops-performance-enhancement/>
69. Just Kicking It Podcast at Duquesne University:  
<https://justkickinitpod.com/2016/02/09/episode-39-dom-dagostino/>
70. CHTV Episode 98 Dr. Daniel Pompa: “Ketones and Ketosis”  
<https://www.youtube.com/watch?v=BIRfBUZrO94>
71. Ketovangelist Episode 39 Podcast: Science of Exogenous ketones:  
<https://www.ketovangelist.com/episode-39-dr-dominic-dagostino-discusses-his-work-with-exogenous-ketones/>
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114. ONR News: Protecting Navy Divers and Submariners: the Undersea Medicine Solution; Office of Naval Research (ONR) (duration = 00:09:38)  
<https://www.youtube.com/watch?v=1TqYx5-HBEc>

## **PUBLISHED RESEARCH AND PERSONAL ONLINE RESOURCES**

Academia: <https://usf.academia.edu/DominicDAgostino/Papers>

Research Gate: [https://www.researchgate.net/profile/Dominic\\_DAgostino](https://www.researchgate.net/profile/Dominic_DAgostino)

Linked In: <https://www.linkedin.com/pub/dominic-d-agostino/b/14/156>

RESEARCHER ID: I-6196-2012: <http://www.researcherid.com/rid/I-6194-2012>

## **RESEARCH AREAS OF INTERESTS**

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- Epilepsy and other Seizure Disorders
- Central Nervous System Oxygen Toxicity (seizures)
- Physiology of Extreme Environments
- Brain and Metastatic Cancer
- Alzheimer's Disease
- Wound Healing
- Hyperbaric Oxygen Therapy
- Atomic Force Microscopy
- Confocal Microscopy
- Ketogenic Diet Therapies
- Development and Testing Exogenous Ketones
- Rare Genetic Diseases
- Inborn Errors in Metabolism
- Glucose Transporter Type 1 Deficiency Syndrome Therapies
- Metabolic-Based Drugs
- Repurposing Drugs

## **TECHNICAL EXPERTISE**

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Atomic Force Microscopy (AFM); laser scanning confocal microscopy, diet design and formulation, intragastric gavage, cardiac puncture, blood metabolite measurements, metabolomics studies, membrane lipid peroxidation assays, spectrophotometric assays, electrophysiological measurements using *in vitro* and *in vivo* animal preparations, whole-cell/perforated-patch recordings with patch-clamp micropipettes; intracellular recording with sharp microelectrodes; immunohistochemistry; fluorescence/light microscopy; ratiometric fluorescence imaging of reactive oxygen species (ROS), reactive nitrogen species (RNS),  $\text{pH}_i$ , intracellular Ca, Live/Dead cell analysis, polarographic measurements of tissue slice  $\text{PO}_2$ ; and hyperbaric/hypobaric technology, behavioral testing, electron microscopy, western blot, ELISA assays

## **COMMUNITY OUTREACH AND VOLUNTEER SERVICE OFF CAMPUS**

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1. 2010-Present: Big Brothers Big Sisters (BBBS) of Tampa Bay Mentor (James Tyler: 2-9hrs/month service): <http://www.bbbstampabay.org/Default.aspx?navigationid=2>
2. 2009-Present: TIME 4:13 Mission; (nonprofit 501c3); (missions: Mexico, Honduras, Haiti, West Virginia, local): <http://www.gloryb2godmissions.com/>

3. 2010-Present: Humane Society of Tampa Bay (registered dog and cat foster parent)  
<http://humanesocietytampa.org/>
4. 2011-Present: Metropolitan Ministries (homeless count and relocation, fund raising):  
<http://www.metromin.org/>
5. 2010-2011: Lifelink Organization (awareness and fund raising events for organ donation)  
<http://www.lifelinkfound.org/>
6. 2010-2012: Florida Blood Services (fund raising events) <http://www.oneblood.org/>
7. 2012-Present: Winning the Fight Against Neurodegenerative Diseases; (nonprofit 501c3)  
(scientific board, fund raising) <http://www.winningthefight.net/>
8. 2013-Present: Manta Pacific Foundation (501c3): Conservation and behavioral studies of  
manta rays in the wild and in captivity. <http://www.mantapacific.org/#!/volunteers/c231k>

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### **OTHER SKILLS, INTERESTS**

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SCUBA (PADI, advanced), First Aid, CPR, AED, and DAN O<sub>2</sub> Delivery, Manta Ray Specialist (PADI), Marine Biology, Exercise Physiology, Hiking, Kayaking, Mountain Biking, International Travel, Aquanaut, NASA NEEMO 22 crew member

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## **REFERENCES**

References available upon request